APPENDIX D.

Description of Forests and Working Circles, Ghotki Range.

Range.	Forest.	Area.	Boundaries.	Situation, configuration and soil.	Description of stock.	Remarks.
Ghotki.	Jarwar.	2,971—24.	Bounded on the north by revenue land of deh Chajan ; on the east by revenue land of deh Pipri ; on the south by revenue land of deh Belo Buzdar ; and on the west by revenue land of deh Baloch Khan Buzdar.	From 3 to 5 miles south of the railway at Mirpur Mathelo station. The soil is poor and sterile in most parts from the formation of kalar incrustation on the surface.	Practically a barren waste, covered with only a low useless scrub of lai, kirar and jhit. Kandi is seen widely scattered and fringing the banks of two zamindari karias passing through the forest, but is nowhere plentifully brought to repay exploitation. No water having come on the soil, for many years a hollow, kalar incrustation, has formed on the surface, nearly everywhere by the evaporation of subsoil moisture. A new Shakh wah is in course of construction and in its passage cuts the south-eastern corner of the forest, but it is hardly likely that sufficient water can be spared from it to reclaim the land from its present sterile condition, while the possibility of reboisment of the area will depend upon the possibility of obtaining a very ample supply of water for several years in succession. Average density : ·1. Quality : Unfit for anything. Reproduction : Nil.	The area should be disforested.
	Wasir.	1,469—24.	Bounded on the north by revenue land of deh [illegible] Pitafi ; on the east by revenue land of deh Latif wah ; on the south by revenue lands of dehs Sher Ali Gabol and Akhtiar Wasir ; and on the west by revenue land of deh Akhtiar Wasir.	About 8 to 10 miles from Sarhad and Mirpur Mathelo on the North-Western Railway. The soil varies from a light sandy loam to almost pure sand. About 700 acres are unproductive kalar waste.	Kandi is the principal species found, but it is poor and stunted, and occupies only about one-half of the area of the reserve. As a rule, it is mixed with indifferent lai, but unmixed kandi occurs in places. On the unproductive area low scrub lai with kirar forms the covering. The small part of the forest on the south-west, outside the band, has a very good crop of nearly pure kandi, dense and apparently thriving. Some good kandi is also seen along the foot of the band on the western boundary, and along the eastern bank of the Masu wah. Average density : ·5. Quality : Fit for fuel, but the area is insufficiently stocked. Reproduction : In the closed coupes natural regeneration is poor. Percolation assists the after-growth on the bank of the Masu wah for a short distance. Established seedlings are seen along the alignment of the band and following the zamindari karias also in the small inundated part on the south-west.	The Masu wah is being widened and advantage might be taken to get openings made in the spoil banks.
	Walu Mahar.	2,760—20.	Bounded on the north by revenue land of deh Dhanjro ; on the east by revenue lands of dehs Kazi Wahan and Widher ; on the south by revenue land of deh Walu Mahar ; and on the west by revenue land of deh Ali Mahar.	On the south of the railway about 8 miles from Sarhad and Ghotki stations. Soil, arid, poor, kalar, especially on the south and south-west. The surface level being high the area seldom gets water even in abnormal floods.	About two-thirds of the area on the south and east are practically valueless as forest, the soil being unproductive kalar covered with only moribund lai. The best growth of kandi and lai occurs on the north and west, but a good deal of it has been worked out in annual coupes since 1898-99. The standing stock is, however, sufficient to re-pay the labour and expense of felling, the material being fit for railway fuel. Average density : ·5. Quality : Standing stock is fit for fuel, but the area is a good deal bare. Reproduction : After-growth in closed coupes is successful in some compartments. A large part of compartments 2 and 3 in the south is open, waste, but for the usual lai covering a kalar surface. Protection is bad.	

Range.	Forest.	Area.	Boundaries.	Situation, configuration and soil.	Description of stock: —	Remarks.
Ghotki—*continued.*	Samo wah.	2,843—28.	Bounded on the north by revenue lands of dehs Damachi and Mathelo; on the east by revenue lands of dehs Ali Mahar and Walrah; on the south by revenue lands of dehs Walrah and Samo wah; and on the west by revenue lands of dehs Changniani and Damachi.	Close to the last described forest on the west. The soil is a good alluvial clay with a small proportion of sand. In the south-eastern compartments kalar appears on the surface. The Samo wah from which the forest apparently takes its name flows north-west and south-east through the forest. The Lundi wah is on the boundary of compartment 3. These and the overflow of the river irrigate the greater part of the forest.	Kandi is the predominant species. Lai occurs also mixed with kandi, but is of indifferent growth. The compartments on the south-east are not so well stocked as in other parts of the forest, the soil not being irrigated to the same extent. In previous irregular exploitation kandi appears to have been only lopped of its branches to supply fuel. Revenue plots of land under cultivation are distributed all over the forest, and the necessity for irrigating them helps to keep the soil of the forest in good condition. Average density : ·7. Quality : Good. Reproduction : Coppice is good in exploited coupes, but growth in some instances appears to have been retarded by frost. Kandi seedlings are not numerous enough, except in depressed parts.	A better distribution of the water-supply at hand especially in the south-east would improve the forest.
	Ghotki.	5,899—36.	Bounded on the north by revenue land of deh Sangi Ghotki; on the east by revenue lands of dehs Sarhad, Atal Muradani, Dumano and Sangri; on the south by revenue lands of dehs Mathelo and Bhiralo; and on the west by revenue lands of dehs Biralo and Labano.	Situated along the line of railway and south of it between Sarhad and Ghotki stations. The soil varies from a good alluvial clay to a light sandy loam. Irrigation of the forest depends on the overflow of the river. The tract north of the railway receives regular inundation.	For the purpose of the working plans, the forest is divided into 3 working circles :— Working Circle I—West. The part north of the Railway being annually flooded is covered with dense mixed crops of kandi and lai well grown and thriving; a few mature babul are seen at the south-east corner of compartment A^5. The part south of the Railway is in fairly good condition, water from the river reaching it by openings in the embankment. Low-lying parts in the south-west which receive water are covered with fairly dense lai with a sprinkling of kandi. Sar grass is plentiful and dub makes good pasturage for cattle everywhere. Average density : ·8. Quality : Good, exploitable. Reproduction : All closed compartments show good results of after-growth. Kandi seedlings are fairly numerous. Babul raised from seed sown broadcast has everywhere succumbed to frost. Working Circle II—East. The composition and condition of the crops north of the railway are similar in every respect to the corresponding part in the first working circle. South of the railway the compartment on the boundaries are well stocked with mixed kandi and lai. The compartments on the east have been felled over and are closed for reproduction. Sar grass thrives in compartments B^3, B^4, C^4, and C^3 and is responsible for much damage by fire to the growth. On the whole more kandi is to be found in this part than in working circle I. Average density : ·8. Quality : As above. Reproduction : Good coppice results, except for fire, are seen in closed coupes. Seedlings are not numerous enough. Babul seedlings raised have failed from frost. Working Circle III—South. The southernmost part of forest compartments E^7, E^6, E^5 and F^4, F^5, F^6, F^7, F^8, G^7 and G^8 being low-lying receive water even in ordinary floods by the aid of dhoros running through them. In these lai is the chief crop with kandi next. The latter is dense in the other compartments, but somewhat stunted, and lai which is found with it is not of much account. The mixed crops are not doing well	A better distribution of the overflow received might be made.

Range.	Forest.	Area.	Boundaries.	Situation, configuration and soil.	Description of stock.	Remarks.
Ghotki—*continued.*	Ghotki—*continued.*	5,899—36—*continued.*			in the compartments on both sides of the Mathelo road. Kalar covers large tracts of soil in the south on which kandi is entirely absent, and lai is reduced to a low scrub. A few babul are seen standing on the northern boundary of compartment H⁶. Average density : ·7. Quality : Indifferent in many parts, but the growing stock is exploitable. Reproduction : The northernmost compartments which receive some irrigation have been exploited and closed. Reproduction in them is the same as in the two preceding working circles. Outside of these very little young growth is to be seen.	
	Bandh.	1,102-16.	Bounded on the north and west by revenue land of deh Bandh; on the east by revenue land of deh Sarhad and on the south by revenue lands of dehs Sanghi and Bandh.	About a mile to the north of Ghotki forest. Soil, sandy. From north west to east through the centre of the forest a depression marking an abandoned bed of the river fills with water and overflows low-lying parts. A Public Works Department canal called the Dengro wah, enters and leaves the forest on its northern boundary after following a short course through compartments 3 and 2.	Lai is the prevailing growth, pure or nearly so in the northern compartments and freely mixed with mature kandi in the south. Though dense, the crop in the north and centre of the forest is immature; and on up-lands not watered; it is seen to be dying out and tending to form blanks. Patches of luxuriant growth are seen on the western boundary and on the southern bank of the depression noticed before. The south eastern compartments too which have been felled over and closed appear to be thriving under sufficient flooding. Average density : ·8. Quality : About one-half of the standing crop is not fit for exploitation. Reproduction good, especially coppice, in closed coupes.	Irrigation must depend on the overflow of the river.
	Laluwali.	811-32.	Bounded on the north by revenue land of deh Miranpur Ghotki; on the east by revenue land of deh Jamal and a public road from Ghotki to Kadrapur; and on the south and west by revenue land of deh Laluwali.	About two miles north of Ghotki. Soil, a light sandy loam changing to pure sand. Flooded by the river on the west, and partly on the east a dhoro bounds the south-west. Much of the eastern area is high and above the rise of ordinary flood.	The usual two species constitute the crops which are immature and of uneven density. Lai prevails on the extreme west and south-west, the surface being low-lying and unsuitable for kandi. Elsewhere, kandi and lai are found together with sar grass in abundance. The forest has been closed since 1895, but previous to that year fellings had been allowed all over the area. Average density : ·8. Quality : Immature. Reproduction : Young kandi is noticeable in the flooded parts. In a small plantation on the extreme west young babul has been raised; the plants are from 7 to 10 feet in height and are every year nipped by frost.	The forest will remain closed till 1910.
	Adilpur.	13,093—20.	Bounded on the north by revenue land of deh Khadahri and a public road from Ghotki to Rohri; on the east by revenue lands of dehs Adilpur, Dago, Khaber Chacher and Kazi Badal; on the south by revenue lands of dehs Chak, Kazi Badal, Shafiabad, Amirabad and Chachro; and on the west revenue lands of debs Garko, Malir and Hakra.	To the south of the Railway the north-western corner being about a mile from Mahesar station. The soil varies from a good alluvial clay to a light sandy loam. In some places nearly pure sand exists. Nearly the whole area is flooded by the river through openings in the railway embankment.	Kalar and blanks may be allotted an area of about 2,000 acres. Working Circle I— Compartments C¹, D¹ and D³ on the east are the poorest stocked; the surface being elevated receives water in only high floods. Elsewhere, both kandi and lai appear to be thriving and there is good "sar" and "dub" pasture covering the area. "Sar" is responsible for fires and large portions of compartments E¹ and F² were burnt last year. Some mature babul stands in compartment E⁵ along the Dengro wah. Density : ·9. Quality good. Excellent fuel. Reproduction : 14 compartments have been worked and closed for reproduction since 1895-96 and the results are satisfactory. Fire has done some damage. Kandi seedlings spring up and thrive on irrigated lands. Working Circle II— About one-half of the area of the	

Range.	Forest.	Area.	Boundaries.	Situation, configuration and soil.	Description of stock.	Remarks.
Ghotki—*continued.*	Adilpur—*continued.*	13,693—20—*continued.*			working circle is well stocked, the other half is fair, except for a few kalar stretches which grow only the usual sort of lais "Sar" and "dub" are plentiful. Kandi has re-established itself on some of the burnt plots, but the process of regeneration is necessarily slow. Density: ·8. Quality good. Overmature kandi stems are usually found hollow. Reproduction: Good in closed comments, except for fires. WORKING CIRCLE III— This is the south eastern portion of the forest. Blanks are seen in the northern compartments due to kalar, the ground being high and not regularly irrigated. The irrigated compartments in the south-west are well stocked. Compartments N1 and O1 are partly sandy and are not doing well on the western boundary. Good "dub" pasture is spread everywhere not affected by kalar. Average density: ·7. Quality: Fair on the whole. Reproduction: 7 compartments have been worked and closed. Coppice is promising. Seedlings are not numerous enough in compartments I^1 and I^2. WORKING CIRCLE IV— The whole area of this working circle is well stocked with kandi and lai, which appear to be thriving everywhere, except, perhaps, in p[illegible] of the extreme southern co[illegible]ments, along the Cheechro[illegible]d, where irrigation is not regular. "Dub" and "sar" are everywhere plentiful, and fire has overrun some of the coupes, the worst result being seen in compartment M^6, south of Lal Pir. Density: ·8. Quality: Well grown and exploitable. Old kandi stems are gnarled and hollow. Reproduction: 6 compartments have been worked and closed since 1895-96. After-growth in all is satisfactory, except where fire has interfered. Seedlings, too, are seen especially in compartments I^4 and M^4 where water has been sufficient. Babul has not been successful against frost. WORKING CIRCLE V— This includes the westernmost part of the forest, and lies between the public road to Lal Pir and the outer boundaries. On the whole the area is well watered and the growth on it is thriving and dense. The central compartments representing a low-lying surface are covered with nearly unmixed lai; elsewhere, kandi and lai occur mixed and mature babul is seen scattered in the interior and along the bank of the Mahesar wah on the boundary. Fire has done much damage in compartments I^{10} and I_9. Density: ·9. Quality good. Well grown and thriving everywhere. Reproduction: Excellent results are seen in the 6 compartments worked and closed. Fire has destroyed a part of the 1898-99 coupe. Two small tali plantations in compartments J^{10} and M^7 on the bank of the Mahesar wah are not very promising. Kandi has established itself and is doing well. Babul raised from seed has failed from frost.	